



# Dworshak Fisheries Complex

## Monthly Activity Report



### December Highlights

#### Dworshak

SST BY16 - 2,442,454

SCS BY16 - 2,594,621

COS BY 16 - 400,000

SCS BY15 - 1,507,383

COS BY 15 - 288,584

#### Kooskia

BY 16 Chinook - 775,777  
sac fry

BY 15 Chinook - 692,964

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### U.S. Fish & Wildlife Service, Region 1

#### Managers Message - Steve Rodgers

Volume 6 Issue 3



Mike with lizard at the National Zoo - Reptile House

For this month's Managers Message, I'd like to introduce everyone to a new employee some of you may not yet know. Michael Murray is part of the Idaho Fish and Wildlife Conservation Office, and has quickly engaged in the work of that office, wherever he's been needed. Please welcome him to the team when you get a chance. He was gracious in providing me a brief biography below.

Michael was born in Fairfax City, Virginia. Unlike most children in the city, he was lucky enough to grow up next to the largest tract of public land in the county. Michael spent a large portion of his childhood outside, where he developed a deep connection with nature at a time when his peers were starting to stay indoors.

After high school, Michael volunteered at the Occoquan Bay National Wildlife Refuge Complex. While there, he confirmed his passion for the outdoors, and decided to seek a permanent career working with nature. He was later hired as a Ranger at the refuge complex. After a couple of years at the refuge, Mike attended college to pursue a degree in Biological Sciences at the University of Mary Washington. Shortly after enrolling, Michael secured a position in the U.S. Fish and Wildlife Headquarters Office working for Refuges, in both the

Partners for Fish and Wildlife and the Coastal Programs. He continued to work full time for the Refuge System, on projects across the nation, while attending classes at the University of Mary Washington. Some of his more notable experiences were working with the Nisqually Indian Tribe to restore and monitor wetlands on the Puget Sound, responding to the Deepwater Horizon oil spill, and participating in a worldwide study of mangroves.

Michael loves backpacking, hunting, mountain biking, and mountaineering. He started mountaineering during his frequent trips to Washington; he has summited all the notable volcanoes in Washington and most of the volcanoes in Oregon. After completing his degree, he decided to look westward where he could further develop his love of the outdoors and the Idaho Fish and Wildlife Conservation Office offered the perfect opportunity. He is excited to begin his new adventure in Idaho.



Michael Murray close to summit on Mt. Adams.



Credit: Olson, FWS

Heather is leaving Dworshak Complex and headed back from where she came, William L Finley National Wildlife Refuge Complex.



Credit: Olson, FWS

It's a pizza party farewell for Heather Leopard.

## Dworshak Hatchery Production - Izbicki, Sommer, Bisbee

### Dworshak Stock - Spring Chinook Salmon (SCS)

#### *Brood Year 2015 (BY15)*

By the end of the month there were 1,507,383 BY 15 SCS fry in 10 raceways and 10 Burrow's Ponds. Fry averaged 33.3 FPP (fish per pound). Fish were switched from BioOlympic 1.5mm to 2.0mm on 12/1/16. Water temperature dropped over the month from 48.5 at the beginning of the month down to 45.3 at the end of the month. Mortality was much lower in December with 2,389 fish or 0.2% mortality. Very cold weather caused the vacuum degassers to freeze up so they have been taken off line until the weather warms. Overall, the Chinook are looking good.

#### *Brood Year 2016 (BY16)*

Brood year 2016 eggs continued to incubate on chilled water in December. As of the end of the month eggs were on chilled water at an average of 37 degrees. Eggs are treated with a formalin drip 3 times weekly and will continue to be treated until just prior to hatching. Eggs began hatching at the end of December. Survival and fecundity both exceeded our five year average leading to a surplus of approximately 175,000 eggs. These eggs were out-planted in early December on the Selway River. We currently have 2,594,621 eyed eggs/sac fry on station.

### Coho Salmon (COS)

#### *Brood Year 2015 (BY 15)*

No report submitted.

#### *Brood Year 2016*

No report submitted.

### Dworshak Stock- Summer Steelhead (SST)

#### *Brood Year 2016 (BY 16)*

At the end of December there were 2,442,454 fry from takes 1-10 in System 1, 2, & 3 averaging 9.5 fpp. Mortality in the Systems was 0.21%.

Takes 1-9 were on demand feeders being fed Skretting Classic Trout 3.5mm and Take 10 was on demand feeders being fed Skretting Classic Trout 2.5mm. We have been battling trichodina in many of the BP's in System 2 and 3. Affected ponds were treated with a 60 minute flow through formalin treatment, which was very effective at knocking down the Trichodina. Overall, the steelhead are doing well and are on track to make size at release.

#### *Brood Year 2017 (BY 17)*

Brood was collected via our fish ladder on 12/14-17. Our early SST broodstock goals are 400 ponded adults. The target for December was 100 adults ponded. Fish were not sorted in December due to crowder issues. On December 29 adults collected in October and November were sorted and males injected with GNRH.

(Continued page 3)



Credit: Olson, FWS

Dworshak family gathers for lunch to wish Heather well on her return to Oregon.

**Dworshak Hatchery Production**

(Continued from page 2)

**Dworshak Stock- Summer Steelhead (SST)**

A total of 78 males were injected with the hormone and 10 males were marked as non-injected controls. These males were put into a separate holding pond and will be spawned with the rest of the adults on January 10th. See Table 1 for the trapping summary. December broodstock will be inventoried on Jan. 10th.

Table 1. BY17 SST Trapping Summary, November 2016. (December Broodstock not evaluated).

	<b>SST</b>		<b>Coho</b>		
	<b>M</b>	<b>F</b>	<b>M</b>	<b>F</b>	
<b>Total</b>	259	392	10	6	
<b>Ponded</b>	108	71	10	6	
<b>Outplanted</b>	151	321	0	0	
<b>Ladder Count</b>	708	<b>Sorted Count</b>	667	<b>% Accuracy</b>	94.2

**SUMMARY**

Table 2. Total Production - Fish on Station December 31, 2016.

<b>SP</b>	<b>BY</b>	<b>Location</b>	<b>Number</b>	<b>Wt (lbs)</b>	<b>FPP</b>	<b>L in</b>	<b>L mm</b>
SCS BY 16	16	Incubation (Eggs)	2,594,621				
SCS BY 15	15	Raceways/Sys III	1,507,383	45,289	33	4.6	117
SST BY 16	16	Systems	2,442,454	279,952	10	6.8	173
COS BY 16	16	Incubation (Eggs)	400,000				
COS BY 15	15	System III	288,584	4,550	70	3.5	88
<b>Total Fish/Fry on Station EOM</b>			<b>7,233,042</b>	<b>329,791</b>			

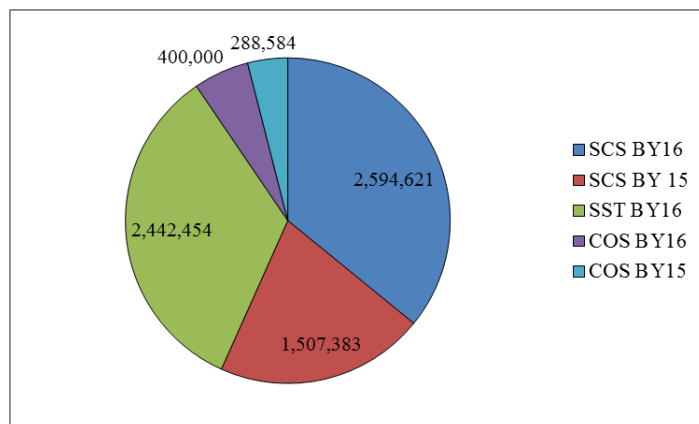


Figure 1. December 31, 2016 Total Fish/Eggs on Station.



The 2016 Combined Federal Campaign closed in December. A total of \$338.00 was raised. The funds were divided and proceeds were directed to The North Idaho Chapter of the American Red Cross, and ICARE. Each organization received \$169.00



Credit: Olson, FWS

A final note from Ray Jones to the Dworshak Complex. RayJ retired at the end of December.



Credit: Olson, FWS

Just moments before Scott's departure for the Christmas holiday, the roof above his office springs a leak!

## **Dworshak NFH Meetings, Training and Conferences - Drobish**

Jeremy Pike, Nez Perce Tribe Fishery Biologist joined the Dworshak Fish Hatchery Team On December 5th. Welcome aboard Jeremy!

On December 14th, Rick Ogden, Tri-State Steelheaders visited the hatchery enquiring about production levels and expressing his appreciation for the contribution the hatchery makes for recreational opportunities.

On December 22nd, Simeon Francis, Corps of Engineers Project Manager, Walla Walla District lead the Design Team on a site visit along with Adam Izbicki, Mark Drobish to replace the steelhead release pipe. The release pipe is in poor condition, has previously been damaged and the end result of this project is a more fish friendly replacement pipe for our on-site steelhead releases.

## **DNFH Maintenance and Operations Activity Report - Koehler**

- December snows became our main focus this month. The maintenance department spent a very large portion of or month plowing snow and spreading ice-melt on the hardscape. Crew were plowing snow all during the regular work week and most weekends just to keep up.
- Along with the plowing, the deep snow also caused several roof leaks in the main building. Leaks began in the in the maintenance supervisor office and spread from there. A contractor was called in and found many of the roof drains had frozen solid. After steam was forced into the drains and they began to thaw. Heat tape was temporarily installed the full length of the drains. So far this has been effective.
- The single digit temps also froze discharge lines form spawning are sump pumps. We were able to clear those with hot water here at the facility.
- The heater that heats the visitor restrooms gave up the ghost and the electricians found that it is obsolete and repair parts cant be found. Bid were taken and a local HVAC contractor will be replacing the heating system when parts are received.
- Electrical contractor worked on other items in the contract to repair our electrical feeds that shorted out. A new section of MCC and new disconnects were installed in the Generator building.
- We are beginning to receive our long awaited PPE for our electrical department.
- Maintenance has completed a total of 39 PM work orders and 15 hand written requests form hatchery staff for the month of December, 2016

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## **Idaho Fish and Wildlife Conservation Office - Connor (for Project Leader)**

### **Project Leader**

Reached out to partners on past and current efforts to understand mollusks within the IFWCO's area of responsibility. We are considering if and how we can contribute to the understanding and preservation of this group of animals.

Attended the 2016 Clearwater AOP wrap up in Lewiston, which is described in more detail below.

Attended Clearwater Long-term Planning meeting with IDFG and the NPT. Interesting and draconian proposals discussed to help the NPT reach its annual spring Chinook harvest quota goal in the future. Also helped to orient new-hire Mike Murray (more below).

Inclement weather resulted in Dworshak closing early on Dec 27.

### **Dworshak Complex Monitoring and Evaluation Team**

Finished inputting data into 2016 Clearwater Annual Operation Plan.

Continued CWT retrieval for BY16 Kooskia NFH spring Chinook salmon.

Attended the hatchery evaluation team pre-coordination spawning meeting for BY17 steelhead.

Attended the AOP wrap up. The meeting allowed IFWCO staff to meet personnel from IDGG and the NPT that they will be working with as they merge into roles in the hatchery evaluation program. A productive outcome of the meeting was addressing problems with data tracking of South Fork Clearwater River broodstock collection. A follow-up meeting was held the next day with IDFG to determine roles and responsibilities for the upcoming brood year.

Staff including Mike Murray spent a lot of time being briefed by Ray Jones regarding data repositories and the status of various studies and reports in preparation for Ray's retirement at the end of the month.

Coordinated with Jesse Rivera (CRFPO) for Run Year 18 CWT purchase for Dworshak (120k for SCS 180k for SST) and Kooskia (110k SCS) NFHs. Completed the tag order and forwarded data to our budget analyst.

Proofread 2016 Spawning Report written by Dworshak NFH production staff, and ensured all numbers were consistent with FINS database and 2016 CLW AOP tables.

Coordinated PIT tagging with the Fish Passage Center.

Completed the draft Run Year 17 PIT tag plan for Dworshak (SST and SCS) and Kooskia (SCS) NFHs, 32.9k and 8k tags respectively.

Trained Mike Murray on CWT retrieval and data input into local database. Introduced him to RMIS database for regional data entry.

Worked on the 2009 Brood Year report. We are a little behind on these reports, but hope to catch up in the near future.

**Idaho Fish and Wildlife Conservation Office**

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Credit: Kooskia NFH

Staff from both Kooskia and Dworshak National Fish Hatchery helped with out-planting chinook eggs from the Dworshak Hatchery along the Selway River below the O'Hara Bridge.



Credit: Kooskia FWS



Credit: Kooskia NFH

Staff from the Clearwater Fish Hatchery released extra chinook fry into Clear



Met with IDFG to coordinate spawning of Steelhead for the South Fork Clearwater River program.

Continued work on FY16 SCS annual report.

Worked on purchasing radio telemetry tags for a cooperative steelhead project with the University of Idaho and the Nez Perce Tribe.

Completed FONS entry for successful DFHP project on Tin Cup Creek.

Coordinated with Salmon School Garden on 2017 pollinator garden.

Coordinated with Leadore School on their Pollinator Pathway fence.

Organized PL data for assessment revision and RIP.

Participated in NWR Climate Change conference call.

Mike Faler organized Ray Jones' send off including homemade pizza prepared by his lovely wife Daphne.

Read NMFS Chinook/Steelhead recovery plan chapter for Pahsimeroi in preparation for a meeting on restoration actions

Dug into files for old FRIMA projects that were proposed but never implemented in Pahsimeroi, for background information to above meeting.

**Aquatic Conservation Team**

Built a map in ArcGIS for IDFG mussel and lamprey surveys for Clearwater and Salmon drainages

Summarized the mountain Whitefish studies conducted by the IFWCO starting in 1992.

Coordinated with Office of Species Conservation to discuss review criteria for the Core Review Team to apply during review of the Round #19 PCSRF restoration proposals.

Read and commented on project review criteria for upcoming Pacific States Salmon Restoration Fund (PCSRF) call for proposals.

Met with the Clearwater Technical Advisory Group to modify review criteria for PCSRF.

Started revising the Snake River RIP assessment.

Met with partners on pollinator fence painting and logistical planning for the hanging.

Helped paint edges on pollinator fence cutouts.

Called into Western Lamprey team call and planned for a face-to-face meeting in January.

**Fall Chinook Salmon Research Team**

Completed the first draft of the results for the somatic energy use model.

Participated in a conference call with the USGS concerning life cycle model development.

Reviewed an age-structure database compiled on fall Chinook salmon by NOAA Fisheries.

Provided data to the PhD student working on otolith microchemistry at the University of Idaho.

Completed deepwater redd searches in Hells Canyon in cooperation with the USGS and Idaho Power Company.

Christine Moffitt of the U.S. Geological Survey, Idaho Cooperative Fish and Wildlife Research Unit, University of Idaho transferred the fisheries investigation bulletins written by Evermann (among others) to Billy Connor

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## Fall Chinook Salmon Research Team

(Continued from page 6)

for safe keeping and future reference. No kidding—not copies of mimeographed copies—the real bulletins bound and published at the end of the 19th century! Chris also presented Billy with the hand-typed Lewiston Dam count data collected from 1968 to 1972. We will be looking for a repository for this historical material that will preserve it for biologists in the future.

Completed the first draft of the 2016 deepwater redd count database.

Worked on resolving issues related to the Environmental Compliance Audit of the IFWCO dated 10/26/2015.

Coordinated the completion of a review manuscript presently entitled “Upstream Migration and Spawning Success of Chinook Salmon in a Developed, Seasonally Warm River System” with staff of the USGS, Idaho Power Company, and NPT.

Reviewed a manuscript for Transactions of the American Fisheries Society.

Completed the FY17 statement of work and budget for the project and forwarded them to BPA.

Prepared a Statement of Work, Sole Source Justification, and bids for the purchase of 3,000, 8-mm PIT tags that are needed to complete a field study being conducted to evaluate the response of juvenile fall Chinook salmon to the small tags.

Contacted BPA about purchasing additional 9-mm PIT tags for the upcoming seining season.

Participated in a conference call with our USGS partners to discuss life cycle modeling.

Participated in a conference call with our NOAA and NPT partners to discuss life cycle modeling.

Coordinated data compilation on hatchery production from 1991 to 2015 with WDFW.

## Idaho Fish Health Center - Blair

December 2016

### Dworshak NFH

**Steelhead juveniles:** System 1 steelhead experienced very little mortality in December. When examined at the beginning of the month, no external parasites were seen.

System 2 steelhead were examined on Dec. 9 for recheck of external parasites after recent treatment with formalin in one burrows pond. Treatment was successful as no parasites were seen, and recommendations were made to continue to watch for flashing or increase in mortality. Another pond was found positive for heavy *Trichodina* on the same day and also recommended to be treated with formalin.

Steelhead mortality in System 3 increased significantly during the month of December. Flashing and increased mucus production was observed on the fish. After sampling numerous ponds, fish health found large numbers of *Trichodina* present in the mucus. The production staff at Dworshak treated ponds with formalin and mortality decreased. Fish health will continue to monitor for *Trichodina* in the upcoming months.

**Spring Chinook juveniles:** Dworshak spring Chinook were examined on Dec 14 for fish health monitoring. No abnormalities were noted, and samples were taken for Bacterial Kidney Disease monitoring by the ELISA test.

**Coho juveniles:** Monthly monitoring was conducted on December 15, 2017. Fish looked good.

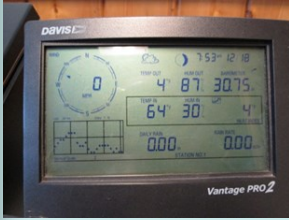
### Kooskia NFH

**Spring Chinook juveniles:** Fish were examined for fish health monitoring at Kooskia on Dec. 13. Fish had low to no food in stomachs due to low water temperatures but otherwise appeared healthy. Samples were taken for Bacterial Kidney Disease monitoring by the ELISA test.

### Nez Perce Tribal Hatchery

**Fall Chinook juveniles:** No fish health issues

**Spring Chinook juveniles:** No fish health issues



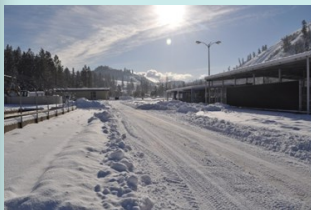
Credit: KNFH

On December 18 the temperatures dropped to 4 degrees at Kooskia NFH.



Credit: KNFH

A leak in the incubation plumbing becomes obvious at 4 degrees F. This leak is not crucial to Kooskia NFH operations and will be repaired at first opportunity.



Credit: KNFH

Lots more snow on December 27. Snow removal program underway.

## Kooskia National Fish Hatchery - Hills

This activity report is implemented by the Tribal Fish Hatchery Manager, Kent Hills. All information in this report was collected and or performed by the hatchery staff during the preceding month.

Under SRBA and the Clearwater Annual Operating Plan, the Tribe, Service and Idaho Fish & Game have agreed to implement other fish production actions related to KNFH mitigation. Reports will include additional information about other species reared, processed and released in relation to KNFH operations.

## Kooskia Chinook Brood Year 2015

There are 692,964 fish on station; this month the mortality 137. They have been on creek water average is at 34 degrees F. The fish are an average of 4.67 inches (119mm) long and consumed 267 pounds of fish feed. Due to cold water temperatures the fish were only fed 5 days out of the month of December. The cold weather has caused a loss of 1,695 pounds for the month. Idaho Fish Health Center performed the hatchery monthly evaluation on 12/13/2016, showed low to no food in the stomachs due to cold water temps. No gill parasites were found; they had low levels of the parasite Ambiphyra. Fish were found to be healthy at this time.

## Kooskia Chinook Brood Year 2016

We currently have 775,777 sac fry on station. The incubation chiller operated on well water without problems the whole month with temperature at 41 degrees F. Hatchery personnel are cleaning egg shells and mort's out of the trays at this time.

## Kooskia Adult Trap Operations:

Trap closed all month.

## Maintenance & Operations:

This month the hatchery has had a lot of snow fall with no melting we are spending a lot of time plowing snow to get in and out of the hatchery.

## Maintenance & Operations:

**Dec 04:** The hatchery suffered a tragedy today with the loss of Gerry Fogleman, who passed away at his home.

**Dec 08:** Water alarm, adjusted the water flow in the burrows ponds and dissolved oxygen average for all burrows ponds was 11.7 before we made the adjustments.

**Dec 09:** Had a low water alarm in the incubation system, the flow in the recirculation pump was increased and the alarm reset.

**Dec 10:** Got about 4 inches of snow overnight.

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**Kooskia NFH - Hills**

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**Maintenance & Operations (continued):**

- Dec 11:** Had a power bump at 12:40 AM, the emergency generator started as it should however after power was restored the generator failed to turn off automatically, it had to be turned off by hand and will have to be started by hand until a relay can be repaired.
- Dec 12:** Staff attended the funeral services for Gerry Fogleman. The generator Repairman arrived at the hatchery; the generator was repaired and is back in full working condition.
- Dec 13:** Fish health inspected fish from BY15, they were parasite free and healthy but had no feed in their stomachs because of cold water.
- Dec 14:** Staff from both Kooskia and Dworshak National Fish Hatchery helped with out-planting chinook eggs from the Dworshak Hatchery along the Selway River below the O'Hara Bridge.
- Dec 16:** Staff attended the Nez Perce Tribal Employees Christmas party at the Clearwater Casino.
- Dec 18:** A bit chilly this morning, 4 degrees, the drain valve at the screen Chamber had to be adjusted; the basin was empty but not yet low enough to set off the alarms. There was also a leak in incubation plumbing, this leak is not crucial to the operations and will be repaired at first opportunity.
- Dec 23:** Christmas Holiday
- Dec26:** Christmas Holiday
- Dec 27:** Lots more snow, snow removal program underway.
- Dec 29:** Staff from the Clearwater Fish Hatchery released extra chinook fry into Clear Creek below the bridge.
- Dec 30:** Overnight 2 inches of snow and the snow continued throughout the day.

**Kooskia NFH Training and Conferences:**

- Dec 02:** Kent attended the HET meeting at Dworshak.
- Dec 13:** Kent attended AOP meeting in Lewiston.
- Dec 20:** Kent traveled to Lapwai for a meeting with Becky and Mike on the Kooskia Hatchery Maintenance position.

## Information and Education

### **Dworshak - Jill Olson**

**Facebook:** not available **Website:** Page Loads - 10 Unique - 8; First Time - 8 ; Returning - 0

**Visitors:** We received 11 visitors from three states.

**Tours:** No tours were provided to during the month of December.

**Outreach:** There were no outreach activities for the month of December.

**Volunteer Hours:** Five volunteers contributed a total of 78 hours during the month. The majority of the hours were used in snow removal and fish culture. Idaho Youth ChaLenge cadets graduated on December 19

### **Kooskia - Kent Hills**

**Visitors:** There were 110 visitors to the hatchery during this month; this figure is compiled by staff. Not many visitors due to cold weather.

**Outreach:** No outreach activities for the month of December.

## Staff List



### **Dworshak Fisheries Complex Management:**

Steve Rodgers, Dworshak Fisheries Complex Manager

Mark Drobish, Dworshak NFH Manager

Adam Izbicki (FWS) & Jeremy Sommer (NPT)

Dworshak NFH Assistant Hatchery Managers

Mike Tuell, SRBA Coordinator

Scott Koehler, Dworshak NFH Maintenance Supervisor

Doug Nemeth, Project Leader, Idaho Fish and Wildlife Conservation Office

Mike Faler, Aquatic Conservation Lead

Dr. William Conner, Fall Chinook Research Lead

VACANT- Fish Production M&E Lead

Kent Hills, Kooskia NFH Manager

Gerry Fogelman, Kooskia NFH Maintenance Supervisor

**Dworshak NFH Production:** Angela Feldmann, Tom Tighe, Rob Bohn, Wayne Hamilton, Mike Bisbee, Tui Moliga, Steve Coomer, Carter Lopez, Zach Broncheau, Jayden Hudson, Steve Jeffers, Jayson Thompson, Aidan Frye, Jeremy Pike, Levi Carson, Dan Peters

**Administration:** Heather Leopard- Administrative Officer, Brian Devlin- Budget Technician

### **Dworshak NFH Maintenance:**

Terry Weeks, Rick King, Rob Kellar, James Oatman, James Paddelty, Melissa Wright, Kurt McCorkle

### **Idaho Fish and Wildlife Conservation Office:**

Ray Jones, Aaron Garcia, Frank Mullins, Jody Brostrom, Chris Griffith, Mike Murray

**Complex Information and Education:** Jill Olson

**Kooskia NFH:** Kenny Simpson, Kayla Warden